

ABSTRACT

Provided is a method of screening gene libraries derived from a mixed population of organisms for a bioactivity or biomolecule of interest. The mixed population of organisms can be a cultured population or an uncultured population from, for example, the environment. Also provided are methods of screening isolates or enriched populations of organisms, which isolates include a population that is spatially, temporally, or hierarchical, for example, of a particular species, genus, family, or class of organisms. Identified clones containing a biomolecule or bioactivity of interest can be further variegated or the DNA contained in the clone can be variegated to create novel biomolecules or bioactivities of interest.

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